Title (en)

Excitation of gas slab lasers

Title (de)

Anregung von scheibenförmigen Gaslasern

Title (fr)

Excitation des lasers à gaz en forme de tranche

Publication

EP 0986147 A3 20000419 (EN)

Application

EP 99307063 A 19990906

Priority

US 14871498 A 19980904

Abstract (en)

[origin: EP0986147A2] An rf-excited discharge laser comprises a pair of electrodes (104,106) and an rf power source (100), both electrodes being ungrounded, the power source being adapted to apply an rf voltage to both electrodes, the respective voltages applied to each plate being out of phase. A balanced discharge is thereby established in which the interelectrode voltage is unchanged whilst the potential difference between each electrode and the surrounding grounded surfaces is halved. Thus, the trade off between discharge power and discharge escape likelihood is overcome. The voltages applied to the electrodes (104,106) are preferably 180 DEG out of phase, or nearly so. One way of delivering the rf energy to the electrodes is to provide a power splitter (102) to divide the output of the rf supply into two outputs, one of which is delivered to one electrode and the other of which is delivered to the other electrode in substantial anti-phase. This anti-phase delivery can be achieved by, for example, employing coaxial cable with an additional half-wavelength. An alternative manner of delivering the voltages to both electrodes is to supply the rf energy directly to a single electrode, and connect the other electrode to a quarter wavelength transmission path. A suitable transmission path is an end-grounded coaxial cable, preferably connected via a suitable matching network. <IMAGE>

IPC 1-7

H01S 3/03; H01S 3/097

IPC 8 full level

H01S 3/0975 (2006.01)

CPC (source: EP US)

H01S 3/0975 (2013.01 - EP US)

Citation (search report)

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